### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# (19) World Intellectual Property Organization International Bureau



### ! (BB12 B1)| B13 | 1 B13 | 1 B14 | B14 |

### (43) International Publication Date 31 March 2005 (31.03.2005)

### PCT

## (10) International Publication Number WO 2005/029670 A1

(51) International Patent Classification<sup>7</sup>: G05F 1/66

H02J 3/14,

.

(21) International Application Number:

PCT/EP2004/010639

(22) International Filing Date:

22 September 2004 (22.09.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0322278.3 23 September 2003 (23.09.2003) GB

- (71) Applicant (for all designated States except US): RE-SPONSIVELOAD LTD. [GB/GB]; 70 Ditchling Road, Brighton, East Sussex BN1 4SG (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): HIRST, David [GB/GB]; 70 Ditchling Road, Brighton, East Sussex BN1 4SG (GB).

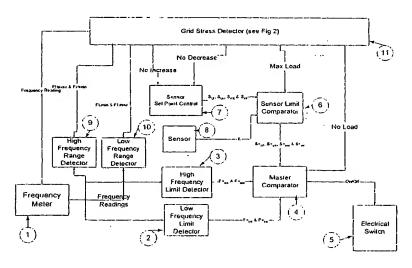
- (74) Agent: FRANK B. DEHN & CO.; 179 Queen Victoria Street, London EC4V 4EL (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report

[Continued on next page]

(54) Title: GRID STABILISING SYSTEM



(57) Abstract: The invention provides control of an electric load receiving power from a grid. The frequency of the grid is detected and used to determine a stress level on the grid. A high frequency detection is indicative of too little a load for the electrical power being supplied to the grid and, therefore, a low stress condition. A high stress condition may exist if there is too much load for the power being supplied to the grid. Adjustment of the power consumption of the load is prevented if the high and/or low stress states is determined. If a critical high or low stress condition is determined, the load is either prevented from consuming power completely or the load is set to a maximum power consumption state, respectively. The benefits of the invention are increased if the device is combined with a load controller which operates to control power consumption based on grid frequency and a variable, which, for the particular load, is to be kept within controlled limits.



7 029620/2002 O